
Table of Contents

E70 Life Cycle Impulse (LCI)

Subject	Page
Introduction	3
Overview	3
Body	4
Dimensions	4
Exterior	5
Front	5
Rear	6
Sides	7
Interior	8
Dashboard	8
Diver Assistance Systems	8
Side-view Camera	9
ACC Stop & Go	9
Powertrain	12
New Engines	12
GA8HP Automatic Transmission	12
Transmission Emergency Release	13
Exterior Lighting	15
Headlights	15
Tail Lights	16

Life Cycle Impulse

Model: E70

Production: from 4/2010

OBJECTIVES

After completion of this module you will be able to:

- Describe the styling updates BMW introduced on the E70 LCI.
- Understand the different engine variants available on the E70 LCI.
- Explain the changes to the parking lock emergency release procedure of the 8 speed automatic transmission (that is starting with the E70 LCI).

Introduction

Overview

The BMW E70 X5 was introduced to the US market for 2007 as a luxury SAV in the luxury vehicle class. The spacious interior provides innovative equipment features with maximum functionality and sitting for up to seven people. It set new standards in efficiency among its competitors.

This 2010 E70 model LCI (life cycle pulse), includes several exterior enhancements. The two new engines introduced have additional Efficient Dynamics measures which deliver optimum power and torque with excellent fuel economy and emissions. Due in part to the introduction of the eight speed automatic transmission that provides precise shifting and a smooth driving experience and the standard equipment Brake Energy Regeneration.



Available Engines

As of April 2010, the E70 LCI is offered in following model variants:

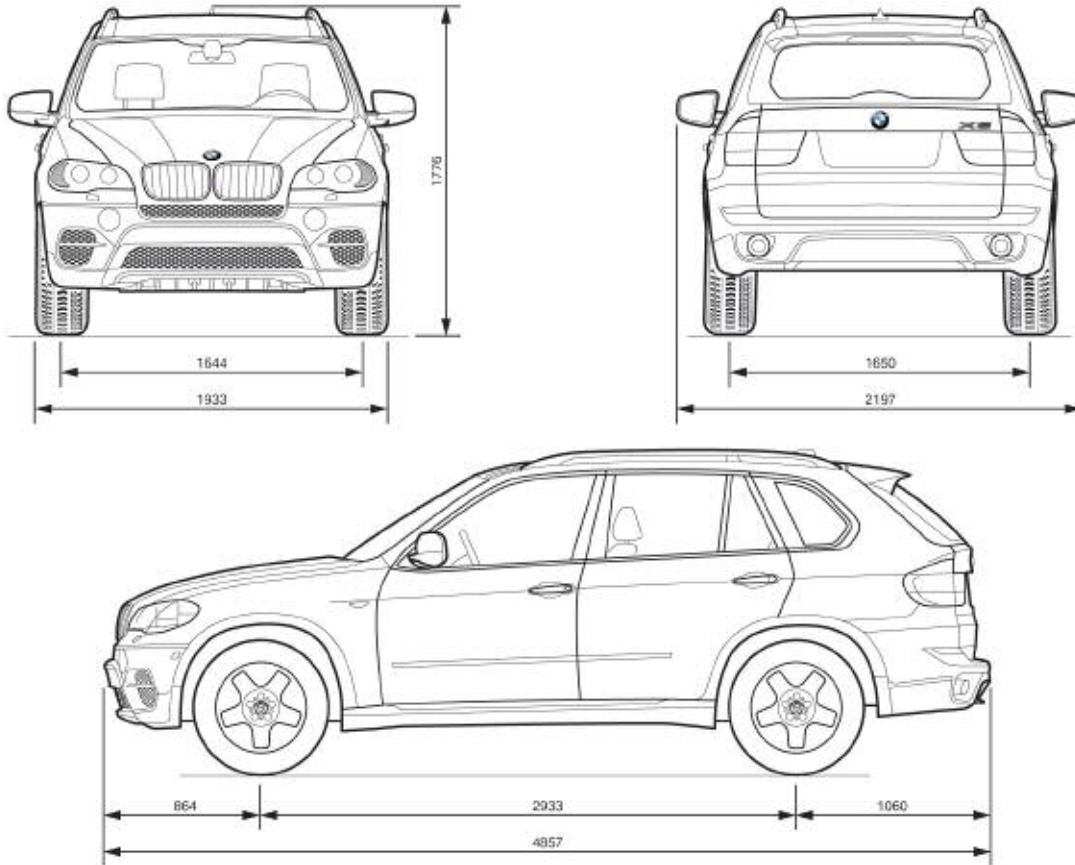
- BMW X5 xDrive35i
N55B30M0 engine (225 kW/300hp and 400 Nm/300lb-ft)
- BMW X5 xDrive50i
N63B44O0 engine (300 kW/400hp and 600 Nm/450lb-ft)
- BMW X5 xDrive35d US (Advanced Diesel with BluePerformance)
M57D30T2 engine (200 kW/265hp and 580 Nm/425lb-ft) as previously.

Body

Dimensions

Some dimensions have changed when compared to the previous E70.

E70 LCI Dimensions



Specification	E70	E70 LCI (xDrive50i)
Unladen weight (kg)	2,125	2,190
Length (mm)	4,854	4,857
Width (mm)	2,197	2,197
Height (mm)	1,766	1,776
Wheelbase (mm)	2,933	2,933
Front overhang	859	864
Rear overhang	1062	1060
Track width, front (mm)	1,644	1,644
Track width, rear (mm)	1,650	1,650

Note: For further technical data on the E70 LCI please refer to the vehicle owner's manual.

Exterior

Front

The exterior enhancements of the LCI help to accentuate the sporty character of the X5. The side air intakes have been enlarged for improved cooling and the front fenders have been modified to accommodate the new front fascia. The black plastic trim at the bottom edge of the body is reduced to show more painted surface.

The newly designed front of the E70 LCI is characterized by the following features:

E70 LCI Front



Index	Explanation
1	New headlight design
2	Indented fog lamps
3	“Simulated” underbody protection (skid plate)
4	Front bumper with larger side air intakes and horizontal webbed grill

Rear

The reshaped rear bumper with more body color trim leads to the tailpipe surrounds. The taillights have been redesigned to an L-shape and now have LEDs for enhanced brightness. The fog lights have been moved inwards making the vehicle appear lower.

The rear of the E70 LCI is characterized by the following features:

E70 LCI Rear



Index	Explanation
1	Narrow white driving light elements
2	L-shaped taillights with horizontal lines
3	New exhaust tailpipes (diameter was increased from 70 mm to 80 mm)
4	“Simulated” underbody protection “skid plate”
5	New rear diffuser

Sides

The sides of the E70 LCI have been revised with the following details:

- New, reshaped side wheel arches
- Shorter front overhang
- Redesigned rear bumper



E70 LCI Side

Interior

Dashboard

The elegant dashboard with the typical BMW driver orientation was enhanced by the high quality and harmony of the materials used.



E70 LCI Dashboard

Diver Assistance Systems

The E70 LCI is available (from May 2010) with the following driver-assistance systems:

- Side-view Camera
- ACC Stop & Go
- Lane departure warning

Side-view Camera

The two side view cameras are located in the left and right upper corner of the front of the bumper. They ensure an additional field of vision in poor visibility situations and allow early detection of traffic approaching from the sides when pulling out or entering roads.



E70 LCI Side-view Camera

Note: For detailed information on "Side-view Camera" see the new BMW 5 series "F10 Complete Vehicle" training material available on TIS and ICP.

ACC Stop & Go

Active Cruise Control regulates speed when the road ahead is clear and switches automatically to distance control when the sensor for ACC Stop & Go detects a slower moving vehicle in the lane ahead. In this way Active Cruise Control not only assists the driver on little-used roads, but also in heavy traffic. Active Cruise Control takes over the routine of accelerating for the driver precisely adjusting the distance and speed with regard to other road users.

The Stop & Go function of the Active Cruise Control can bring the vehicle to a complete stop if necessary. If the vehicle ahead begins to move again after having stopped, the driver is notified. To pull away again, the driver has to acknowledge the message. The pulling-away process is controlled fully automatically by ACC Stop & Go only if the duration of the stop is very short.

The sensor for the ACC Stop & Go is located behind the lower grill in the front bumper cover.

ACC Sensor Location



Index	Explanation
1	ACC-Sensor

The LCI E70 now can be ordered with Active Cruise Control w/Stop & Go. A new sensor is used for this function which is already known from the F10. Because E70 does not use an ICM, in this application the sensor is not connected to the integrated chassis management (ICM) control unit but rather to the longitudinal dynamics management (LDM) control unit as in the E6X LCI vehicles.

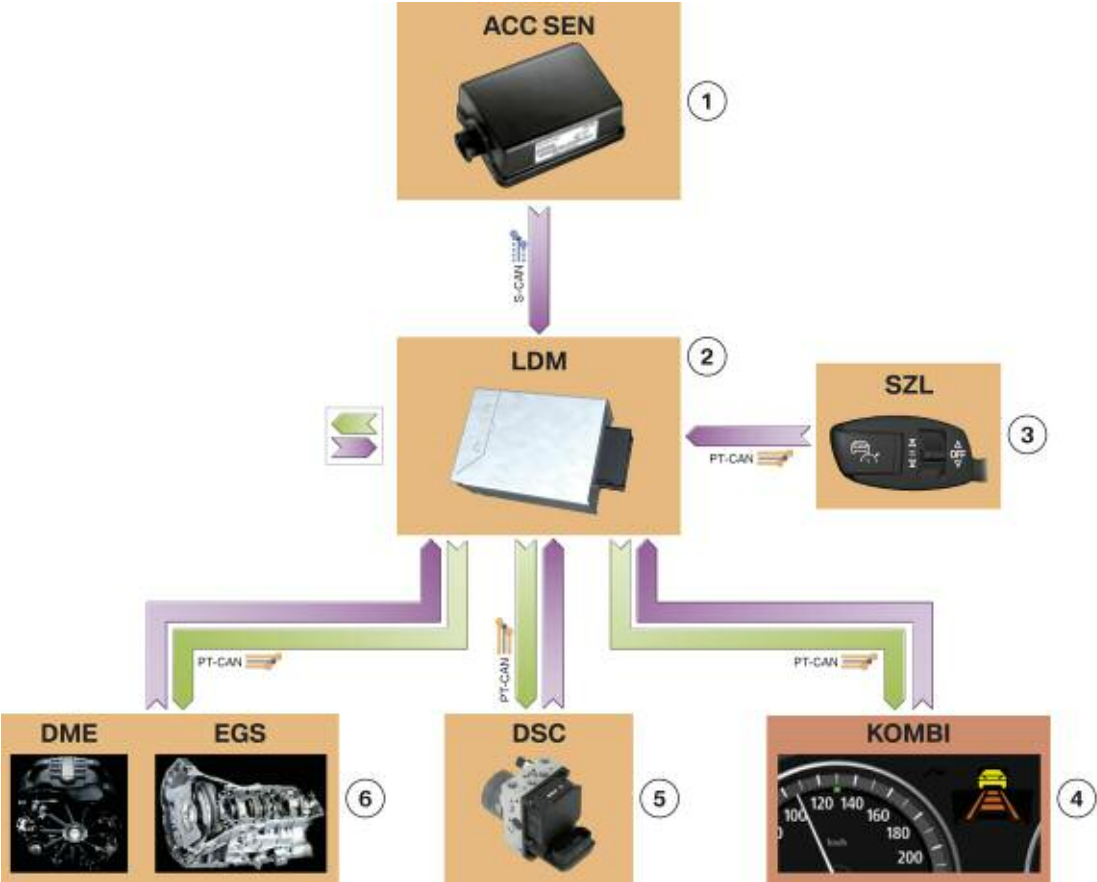
The sensor for ACC Stop & Go is a radar-based sensor designed to detect the range of the vehicles traveling in our path. Both the short range and the long range radars are incorporated in one sensor.

The sensor sends out focused electromagnetic waves with a transmission frequency of 76–77 GHz. The echoes reflected from objects are received and evaluated by the sensor. In this way, the sensor can gain information about the size, distance and the speed of the objects in front of it.

Note: For a detailed description of the new ACC sensor and the operation of "ACC Stop & Go" system refer to the BMW 5 Series F10 training material available on TIS and ICP.

The following graphic explains the inputs and outputs within the components of the E70 LCI ACC Stop & Go system on the E70 LCI.

E70 LCI ACC Stop & Go system components



Index	Explanation
1	ACC-Sensor
2	Longitudinal dynamics management (LDM)
3	Steering Column Module (SZL)
4	Instrument Cluster (KOMBI)
5	Dynamic Stability Control (DSC)
6	Digital Motor Electronics (DME/DDE)/ Electronic Transmission Control (EGS)

Powertrain

New Engines

The E70 LCI is available with two new gasoline engines, both have higher performance but almost the same fuel consumption and emission levels as their predecessors. The E70 LCI diesel (xDrive35d) however, will see no changes to its powertrain.

The following table lists the most important specifications regarding the engines installed on the E70 LCI .

Specification	Unit	xDrive35i	xDrive50i	xDrive35d
Engine		N55B30M0	N63b44O0	M57D30T2
Displacement	cm ³	2979	4395	2993
Cylinders		6	8	6
Power	kW/hp	225/300	300/400	200/265
RPM	1/min	5800	5500-6400	4200
Torque	Nm/lbft	400/300	600/450	580/425
RPM	1/min	1200-5000	1750-4500	1750-2250
Compression Ratio	ϵ	10.2 : 1	10.0 : 1	16.5 : 1
Stroke	mm	89.6	88.3	90.0
Bore	mm	84.0	89.0	84.0
Engine Management		MEVD17.2	MSD85	DDE7.3.1

Note: For more detailed information regarding the engines installed in the E70 LCI please refer to the individual engine training material available in TIS and ICP.

GA8HP Automatic Transmission

The E70 LCI is standard equipped with the new GA8HP eight speed automatic transmission on all gasoline models. Especially close gears ratios allow better use of the optimum speed ranges. This increases the driving dynamics and shifting comfort while enhancing fuel economy and emissions.

The GA8HP45Z is installed with the N55B30M0 engine in the xDrive35i.

The GA8HP70Z is installed with the N63B44O0 engine in the xDrive50i.

Note: For more information regarding the GA8HP automatic transmission refer to the F07 and F10 training material available on TIS and ICP.

Transmission Emergency Release

There is a new operating concept used for releasing the transmission parking lock mechanism (transmission parking lock emergency release). The existing transmission emergency release is being gradually removed from all vehicles with the 8 speed automatic transmissions, beginning with the E70 LCI.

In the event of a fault affecting the powertrain, the transmission parking lock can be unlocked mechanically and put in “Neutral” by means of a set screw/stop (adjusting screw) that acts on the gear selector lever. In addition to the mechanical transmission parking lock emergency release, the procedure to put the vehicle in “Neutral” can also be done electronically via ISTA.

Transmission Emergency Release GA8HP



Index	Explanation
1	Adjusting set screw/stop
2	Parking lock lever
A	Transmission Parking lock engaged
B	Transmission Parking lock dis-engaged

Note: Refer to the repair instructions for the proper procedure on releasing the parking lock on the GA8HP automatic transmission.

CAUTION!!!

The operation of both the mechanical and electrical parking lock emergency release may only be done by BMW service personnel. To actuate the mechanical transmission parking lock emergency release the vehicle must be lifted and the underbody paneling removed. This is necessary in the event the vehicle has to be put on a flatbed for transportation to the service department.

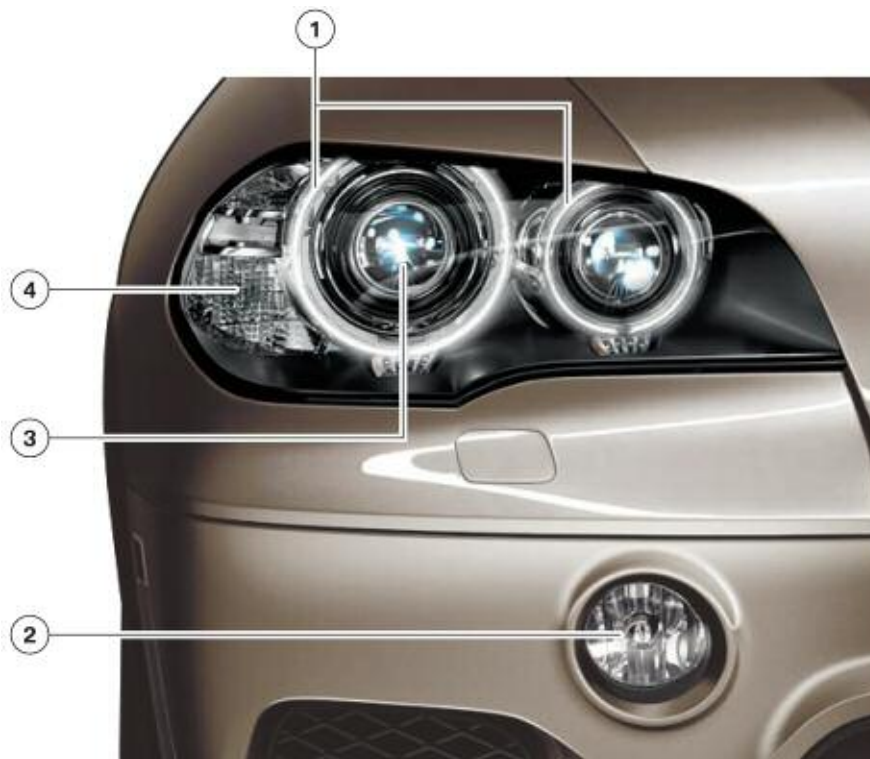
Product line	Series	Transmission	Hardware used	Software used
L4	E70/E71	GA8HP45Z GA8HP70Z	04/2010	10/2010
	E70	GA6HP26Z TU	04/2010	—
	E71	GA6HP26Z TU	04/2010	—
L6	F01/F02/F03	GA6HP19Z GA6HP26Z	03/2010	09/2010
		GA8HP70Z	09/2010	09/2010
	F01/F02	GA8HP90Z	09/2010	09/2010
	F04	GA8HP70Z	09/2010	09/2010
	F07	GA8HP45Z	03/2010	09/2010
	F10	GA8HP45Z GA8HP70Z	06/2010	09/2010

Exterior Lighting

Headlights

The E70 LCI comes with Xenon headlights and cornering lights as standard equipment. The following figure shows the Xenon headlights for low and high beam. The cornering light (Adaptive light control SA 524) uses Xenon headlamps (3) and the fog lamps also perform cornering light function.

LCI E70 with Xenon headlights for low and high and fog lamps



Index	Explanation
1	Corona rings (daytime running lights, parking lights)
2	Fog lamps (with Cornering lights)
3	Low beam, high beam, headlight flasher (with SA 524 Cornering lights function)
4	Turn signal indicators

Tail Lights

The tail lights, are in the classic BMW L-shape and are realized through continuous LED elements. The LCI tail lights also features a narrower white reverse light.

E70 LCI Rear Lights



Index	Explanation
1	Turn signal indicators
2	Reverse light
3	Tail light and parking light
4	Brake light
5	Brake Force Display
6	Tail light